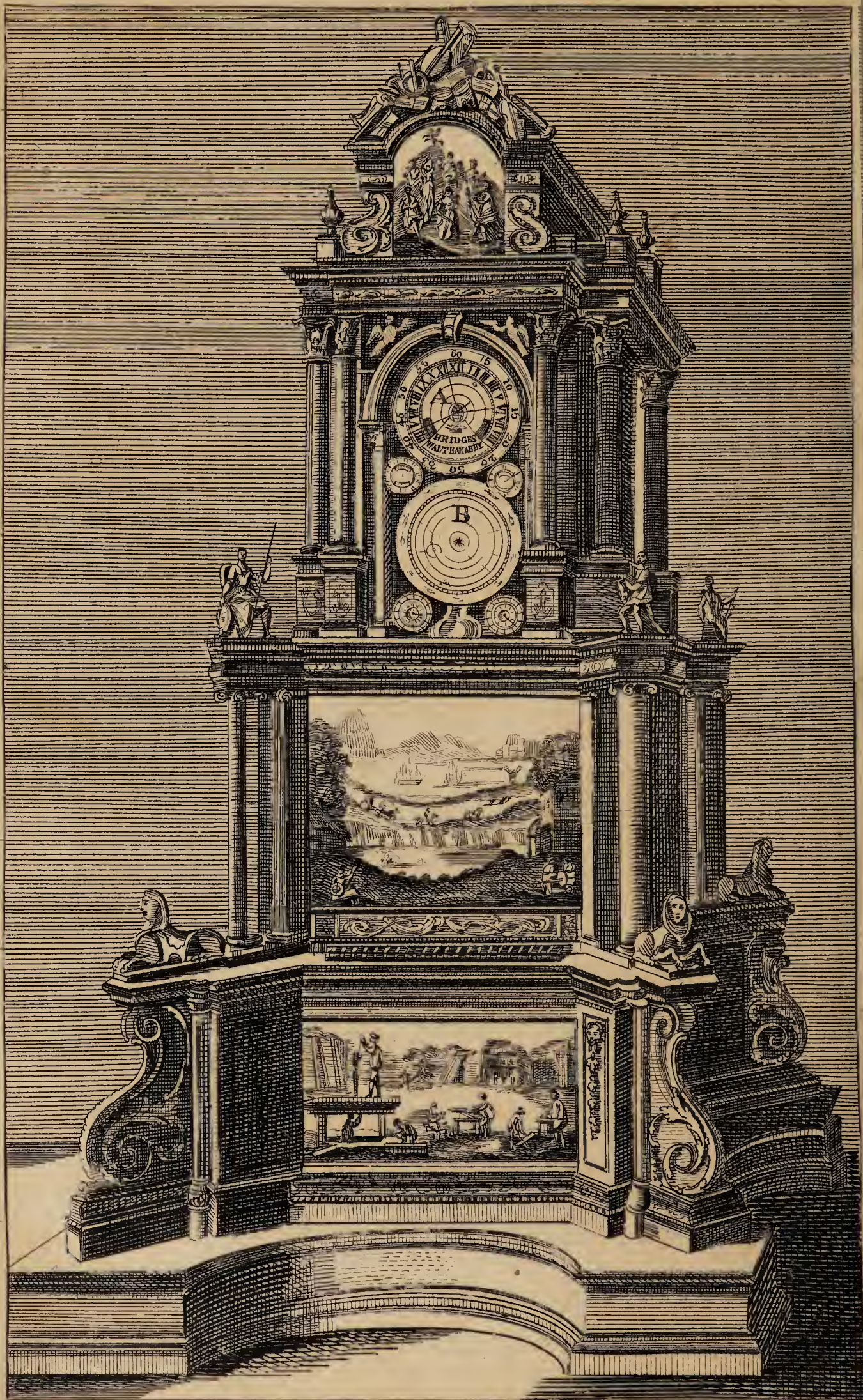


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The Microcosm. Clowes Sculp.

85774.
A SUCCINCT
DESCRIPTION

OF THAT

Elaborate and Matchless PILE of ART,

CALLED, THE

MICROCOSM.

WITH A SHORT ACCOUNT OF THE

SOLAR SYSTEM,

INTERSPERSED WITH

POETICAL SENTIMENTS,

ON THE

PLANETS.

Extracted from the most approved AUTHORS
on that SUBJECT.

The FIFTH EDITION, with ADDITIONS.

NEWCASTLE:

Printed by I. THOMPSON, Esq; for the PROPRIETOR,
Mr EDWARD DAVIES.

[Price SIX-PENCE.]





TO THE
READER.

I *N* *Justice to the Memory of the*
late Mr HENRY BRIDGES, of
WALTHAM ABBEY, Archi-
tect, I must inform the Reader, that the
MICROCOSM was constructed by that
excellent Artist. It was the Produce of
more than twenty Years close Study and
Application; and when compleated, it re-
ceived the Approbation of the Nobility,
the Royal Society, the Gentry, and the
curious Part of Mankind in general.

We presume it needless to apologize for
an Attempt to make some Profit from a
Work, which has been so long bringing to
Perfection, and which has been attended
with such prodigious Expence; for it
would be impracticable for a private Per-
son

TO the READER.

son to bestow so much Time and Money in the Pursuit of Mechanic Powers and Operations, if he might not expect public Encouragement, for what so manifestly tends both to the Entertainment and Improvement of Mankind.

A Description of this inimitable Piece of Art, must be acceptable to every Person who has any Degree of Curiosity; for it is a Work of such complicated Contrivance, and affords such a Variety of Representations, that the most fertile Imagination is unable to form an adequate Idea of it: And it is at the repeated Requests of several Persons of Distinction, who have honoured the Proprietor with their Inspection and Approbation, that this Description of the MICROCOSM is published.

A SUCCINCT



A S U C C I N C T
D E S C R I P T I O N
O F T H E
M I C R O C O S M .



THE MICROCOSM is built in
the Form of a *Roman Temple*. It
is ten Feet high, six broad in the
Basis, and consists of five principal
Parts. It is most beautifully com-
pos'd of Architecture, Sculpture, Painting, Mu-
sic, and Astronomy, according to the most ap-
proved Rules and Principles; and contains an
infinite Variety of Moving Figures, whose Mo-
tions are a judicious Representation of Life. The
Beauties of its internal Parts are calculated to de-
light the Eye, please the Ear, and improve the
Mind; its external to strike every Beholder
with

with Admiration at the Regularity and Magnificence of its Structure.

IN the Top of this Machine are three beautiful Scenes, which change alternately.

THE first is a curious Representation of the * Nine Muses, on the Hill *Parnassus* †. They appear playing in Concert, on various Musical Instruments, as the Harp, Hautboy, Flute, Bass Viol, &c. *Pegasus* is likewise at the Top of the Hill, and seems to fly. The whole is highly finished, the Attitudes striking, and the Motions are a just Resemblance of the Life.

THE second Scene is a delightful Forest, in which are represented a great Variety of Wild Beasts.

* They were supposed the Daughters of *Jupiter* and *Mnemosyne*. Their Names are *Calliope*, who presides over Music; *Clio*, over History; *Erato*, over Love; *Thalia*, over Comedy; *Melpomene*, over Tragedy; *Terpsichore*, over Dancing; *Euterpe*, over Musical Instruments; *Polyhymnia*, over Memory; and *Urania*, who presides over Astronomy.

† *Parnassus* is a Mountain of *Antient Greece*, now *European Turkey*, and is situated in *Livadia*, North of the Gulph of *Le-panto*. Its high Top appearing in two Points at *Delphos* (the present *Castro*) occasioned its being called *Biceps Parnassus*, *Nec in bicipite somniasse Parnasso*.—A Spring rises below the Cleft, which is imagined to be the antient *Fons Castalius*; where the *Pythian* Prophets, and the Poets, who pretended to Inspiration, used to bathe and drink the Waters.

Beasts. In this Forest * *Orpheus* is seen playing on his Lyre, and beating exact Time to each Tune; and the Beasts, as though charmed by his exquisite Harmony, seem to express their Admiration by various Motions. This Piece is executed with great Judgment, and affords the Judicious a very agreeable Entertainment.

THE third Scene is a beautiful Grove, a Prospect inexpressibly pleasing, and seems helpful to chase away Melancholy, and inspire a Serenity of Mind. Here are Birds flying, and, in various other Motions, warbling forth their melodious Notes, and producing a remarkable Harmony. The Whole is calculated with great Propriety to entertain both the Eye and the Ear, and to produce pleasing Ideas in the Human Apprehension.

IN the Centre of this magnificent Structure, under a grand Arch of the Corinthian Order, stands a large Clock, which is divided into two
Astronomical

* He was reckoned the Son of *Apollo* and *Calliope*, and is celebrated by the Poets for the Power and Sweetness of his Music.—The Fiction of his charming the Wild Beasts, and of his going into the Infernal Regions to fetch back his Wife *Eurydice*, are well known.

Astronomical Systems, * one above the other, as may be seen in the Frontispiece at A and B.

THE uppermost System at A is called the *Ptolomaic* † System; where the Earth represents the Centre of Motion, with an Hour-Circle round it, and the Sun and Moon revolve round every twenty-four Hours. This is indeed an erroneous System, and now quite exploded; as it shews not the *real*, but *apparent*, Motion of the Sun and Moon. Accordingly it shews the Rising, Southing, and Setting of the Sun, which always points out the Hour of the Day throughout the whole Year, and rises and sets at the same Time, as it really does in the Heavens: For there are two blue Circular Plates, called Horizons, one on the Left Hand, and the other on the Right, which rise and fall according to the Lengthening
or

* Astronomy is a noble Science, worthy the Knowledge of the Fair Sex, and highly deserving more than the following Encomium of the Poet:

*Astronomy! Hail Science heavenly born!
Thy Schemes the Life assist, the Mind adorn.
Thy Aids the Heaven's seal'd Volumes wide impart,
And taught the Seamen first his useful Art;
Gave changing Seasons their determin'd Space,
And fix'd to Hours and Years their measur'd Race.*

† The *Ptolomaic* System was invented by *Claudius Ptolemaeus*, a celebrated Astronomer and Mathematician of *Pelusium*, in *Ægypt*. He lived in the Beginning of the second Century of the Christian *Æra*.

or Shortening of the Days, in order to regulate the Sun's Rising and Setting; so that as the Sun goes round in twenty-four Hours, (being within the Hour Circle) it passes by every Hour on the Plate, and points out the Time of the Day. In order to tell the Time in the Night, after the Sun is set, there is an Hour Hand placed directly opposite to the Sun, also a Minute and Second Hand, all on the Centre, so that the Time of the Day, or Night, may be as easily known by this as any other Clock. There are two other Hands on this Centre, besides those before described, one called the Moon's Nodes, which shews the Time of the Eclipses; and the other the Equation of Time, or Difference between the Sun and Clocks.

THERE are also two lesser Horizons within those of the Sun, to regulate the Rising and Setting of the Moon, in the same manner as those of the Sun. The Moon shews the Time of New and Full, her Increase and Decrease, always representing the same Figure as it really does in the Heavens; and does actually rise and set at the same Time.

BUT as this System is found to be false, and is now exploded, as before observed, the * *Copernican*,

* This System was composed by *Pythagoras*, and taught by him about 578 Years before Christ; but after his Death it lay dormant till it was reviv'd by *Nicholas Copernicus*, a famous Astronomer and Mathematician of *Thorn*, in *Prussia Royal*. He was born in that City on the 19th of *January* 1473.

nican, or true Solar System, is placed under it, at B; and plainly demonstrates, that the Sun is a fixed Body, and the Earth is moveable. This System is composed of seventeen Bodies, in the Centre * of which is placed that immense Globe of Fire, the Sun, with a Rotation upon its own Axis from West to East, once in twenty-five Days, six Hours, and is in Diameter above Eight Hundred Thousand Miles, which is said to be a Million Times bigger than the Earth.—Thus the Poet sings the Glory of the Sun:

*Around the Sun the Planets Orbs are hurl'd,
That Centre, Eye, and Glory of the World.
See from his Orb, array'd in all its Pride,
A spreading Lustre streams on ev'ry Side,
And in a Moment gilds the mighty Void!
His Orb so rich, his Beams so swift and bright,
Proclaim the God that made him infinite!*

NEXT the *Sun* is the Planet *Mercury*; next to *Mercury* is *Venus*; and without the Orbit of *Venus* is the *Earth*, about the *Earth*, is the *Moon*; without the Orbits of the *Earth* and *Moon*, is *Mars*; and next to *Mars*, is *Jupiter*, and his four *Satellites*, or *Moons*. The highest and outwardmost Planet of all, is *Saturn*, with
his

* As the Paths which the several Planets describe in their Revolutions round the Sun are not Circles but Ellipses, the Sun is not, in reality, placed in the Centre, but in one of the *Foci* of their respective Orbits.

his *Ring* and five *Satellites*. This System is a true Representation of the Heavens ; for they all move round in their periodical Times, always corresponding with the Heavenly Bodies ; that is, they are seen in the same Signs of the Zodiac here, as they are in the Heavens, provided the Clock is kept going. Their Times of Revolution are as follows :

Saturn, the remotest * of all the Planets in our System, is seven hundred and seventy-seven Millions

** Farthest and last, scarce warm'd by Phœbus' Ray,
Through his wide Orbit, Saturn wheels away.
How great the Change, could we be waisted there !
How slow the Seasons ! and how long the Year ?
From hence, how large, how strong the Sun's bright Ball !
But, seen from thence, how languid and how small !
When the keen North with all its Fury blows,
Congeals the Floods, and forms the fleecy Snows,
'Tis Heat intense to what can there be known,
Warmer our Poles than is its burning Zone.
Who there inhabits must have other Powers,
Juices, and Veins, and Sense, and Life, than ours ;
One Moment's Cold, like theirs, would pierce the Bone,
Freeze the Heart's Blood, and turn us all to Stone.—
Strange and amazing must the Diff'rence be
'Twixt this dull Planet and bright Mercury ; †
Yet Reason says, nor can we doubt at all,
Millions of Beings dwell in either Ball,
With Constitutions fitted for that Spot,
Where Providence, all-wise, has fix'd their Lot.*

BAKER'S Universe.

† It is computed that the Heat which *Mercury*, continually receives from the *Sun*, would make Water boil on the Surface of the Earth, and were he not a very dense Body, he would be calcined by the Solar Heat.

lions of Miles from the Sun, which is almost ten Times farther than our Earth, which makes his Light and Heat ninety Times less than with us, and by travelling at the Rate of Eighteen Thousand Miles every Hour, makes one Revolution round the Sun in twenty-nine Years one Hundred and sixty-seven Days ten Hours, which makes only one *Saturnian* Year. He is in Diameter sixty-seven Thousand eight Hundred and seventy Miles, which is six Hundred Times bigger than the Earth, and little more than half the Bigness of *Jupiter*. He is surrounded by a broad thin *Ring*, * encompassing his Body as an Horizon does a Globe ; the Breadth of which is twenty-one Thousand Miles, equal to its Distance from *Saturn*.

THIS Planet is said to be six Hundred and six Millions of Miles above the *Earth*, so that the *Sun* appears to him only one-ninetieth Part so big as to us ; therefore its Light and Heat must be diminished in Proportion to its Distance, which

* *Muse! raise thy Voice, mysterious Truths to sing,
How o'er the copious Orb a lucid Ring.
Opake and broad, is seen its Arch to spread,
Round the big Globe at stated Periods led:
Perhaps (its Use unknown) with gather'd Heat
To aid the Regions of that gelid Seat.
The Want of nearer Phœbus to supply,
And warm with reflex Beams his Summer's Sky;
Else might the high-plac'd World, expos'd to Frost,
Lie waste, in one eternal Winter lost.* PRIZE Verse.

which must be ninety-times less than with us: But in order to make up for that Deficiency, he has five *Satellites* revolving round him, all in different Periods of Time, and all on the outside of his Ring (what this Ring is, or what Use it is for, we will not pretend to say, but his Moons, we have good Reason to believe, reflect Light on him in the Sun's Absence, as our Moon does on us, so that he is very seldom without Light): The Revolutions of his Moons are as follows:

T H E first makes his Revolution in one Day, twenty-one Hours, and eighteen Minutes.

T H E second in two Days, seventeen Hours, and forty-one Minutes.

T H E third in four Days, twelve Hours, and twenty-five Minutes.

T H E fourth in fifteen Days, twenty-one Hours and forty-one Minutes.

T H E fifth in seventy-nine Days, seven Hours, and forty-eight Minutes.

Jupiter, the largest of all the Planets, even larger than all the rest put together, the *Sun* excepted, being in Diameter eighty-one Thousand one Hundred and fifty-five Miles, which is above one Thousand Times bigger than our Earth: He is four Hundred and twenty-four
Mil-

Millions of Miles from the *Sun*, which is almost six Times farther than the *Earth*; and by moving at the Rate of twenty-four Thousand Miles every Hour, finishes his annual Period in eleven Years three Hundred and thirteen Days and fifteen Hours. Thus the Poet,

*Then Jove, prodigious Planet of the Skies!
His Orb presents, of huge amazing Size,
In Bulk none equals his enormous Mass;
The whole joint System his Contents surpass.*

Jupiter turns once upon his own Axis every nine Hours and fifty-six Minutes (which must make his Days and Nights extremely short, in Comparison to ours) on which Account the diurnal Velocity of his equatorial Parts exceeds the Swiftness wherewith he moves in his Orbit; which is a singular Circumstance, so far as we know. The small Quantity of Light and Heat he derives from the *Sun*, which is but one twenty-eighth Part of ours, is compensated by its quick Returns, and by his four *Moons*,* none of

* For signal Honour made, behold! afar,
Four radiant Moons surround th' Imperial Star,
(Large as our boasted World) whose silver Light,
Refresh his Regions in the gloomy Night;
Nor this the Fancy of deluded Eyes,
Mark'd are their Periods thro' sublimer Skies.
Oft does the Astronomer his Tube display,
And view them in Eclipse with pleas'd Survey.
To this the Curious their Discovery own
Of Light's swift Motion, and its Measure known.

MR BROWN.

of them less than our *Earth*, which revolve round him: So that there is seldom any Part of this huge Planet but is enlightened by one or more of them, excepting near the Poles, where there is no Need of them, because the *Sun* constantly circulates in or near their Horizon, without setting. The first, or nearest *Satellite*, revolves round *Jupiter* in one Day, eighteen Hours, and thirty-six Minutes: The second in three Days thirteen Hours and fifteen Minutes: The third in seven Days three Hours and fifty-nine Minutes: And the fourth, and outwardmost, in sixteen Days eighteen Hours and an Half.—This Planet, seen from its nearest *Moon*, appears one Thousand Times as large as our *Moon* does to us, taking up a sixth Part of the visible Heavens; increasing and decreasing in all the Shapes of our *Moon*, every thirty-six Hours and an Half. By the Eclipses of these *Moons*, which happen in every Revolution round *Jupiter*, Astronomers have not only discovered that Light comes from the *Sun* to us in seven Minutes and an Half; but have also determined the Longitude of Places on the *Earth*, with greater Certainty and Facility, than by any other Method yet known.

Mars is one Hundred and twenty-three Millions of Miles from the *Sun*, which is half as far again as the *Earth*; and by travelling at the
Rate

Rate of forty-five Thousand Miles every Hour in his Orbit, makes one Revolution round the *Sun* in one Year three Hundred and twenty-two Days and seventeen Hours, which is one Year with the Inhabitants of this Planet. He is in Diameter four Thousand, four Hundred, and forty-four Miles, which is almost six Times less than the Earth, and turns round his Axis in twenty-four Hours and forty Minutes, which is the Length of his natural Day. His Light and Heat are equal but to half of ours. If he has any Moon to attend him, she must be very small, for our best Telescopes have not been able to discover it :

*See Mars, alone runs his appointed Race,
And measures out exact his destin'd Space ;
No nearer does he wind, nor farther stray,
But finds the Point whence first he roll'd away.*

Universe.

T H I S Planet is very easily known from the rest, for he appears but small, and with a ruddy Complexion.

T H E *Earth* is removed to the Distance of eighty-one Millions of Miles from the *Sun* ; which is such a convenient Situation in the System with Respect to Light and Heat, as admits of no Excess of either *.

T H E

** See how the Earth has gain'd that very Place,
Which, of all others in the boundless Space,*

I

THE Earth is in Diameter seven Thousand nine Hundred and sixty Miles, and makes its Revolution round the *Sun* from West to East in one Year, or three Hundred and sixty-five Days five Hours and forty-nine Minutes (that being an equal tropical Year) and moves at the Rate of fifty-eight Thousand Miles every Hour, which is one Hundred Times swifter than a Cannon Ball. It turns once upon its own Axis in every twenty-four Hours, at the Rate of one Thousand and forty-two Miles in an Hour, which is the Cause of Day and Night, and the Rising and Setting of all the Heavenly Bodies; and the *Earth's* Axis is always inclined twenty-three Degrees and a Half from the Axis of its Orbit, which is the Cause of our Days and Nights being longer at one Time of the Year than the other, and of the Returns of the *Seasons*.*

C

THE

*Is most convenient, and will best conduce
To the wise Ends requir'd for Nature's Use.
You, who the MIND and CAUSE SUPREME deny,
Nor on his Aid to form the World rely,
Must grant had perfect Wisdom been employ'd
To find, thro' all th' interminable Void,
A Seat more proper, and which best became
The Earth and Sea, it must have been the same.*

Blackmore's Creation.

* Mr WHISTON tells us that,

* If we compute the true Magnitude or Quantity of Matter in the *Earth*, it will appear, upon a moderate Estimate, that she is not the 200th Part so big as *Jupiter*, nor the 90th so big as *Saturn*, nor the 220,000th so big as the *Sun*. So that she is very
incon

THE *Moon* is distant from the *Earth* about two Hundred and forty Thousand Miles; she revolves round the *Earth*, from West to East, once in twenty-seven Days seven Hours and forty-four Minutes; and, above all the rest of the Planets, respects the *Earth* as the Centre of her Orbit. She has something very peculiar in her Movement; for she makes but one Revolution on her own Axis in the same Time that she goes round the *Earth*, always keeping the same Face towards us; so that a Day and Night with the *Moon* is as long as a *Lunar* Month with us, which can be said of no other Planet in our System. She is in Diameter two Thousand one Hundred and seventy-five Miles, which is about fifty Times less than the *Earth*.

*Regard the Spots which mark the Lunar Face,
Her Figure changing in her monthly Race;
A Crescent now, but feebler Light she yields,
Now half her Disk her bounteous Brother gilds,
Now rising in the East, full-orb'd she glows,
And o'er the Night her silver Mantle throws.
The Roughness on her broken Edge reveals
Her Surface mask'd with Vales and painted Hills.
Her brighter Parts the SAGE mountainous deems;
Her darker, Oceans, Seas, and ample Streams.*

MR BROWN.

On
inconsiderable, if compared with the rest of the Solar System, and much more so, if with the whole Universe, or Systems of the fixed Stars; in the Elegancy of the prophetic Expressions, *as a Drop of a Bucket, as the small Dust of the Balance, yea less than nothing and Vanity.* Inasmuch, that if it was possible for the whole Solar System to be annihilated, it would not be missed any more than a Grain of Sand from the Sea Shore.

On a Fine MOON-LIGHT NIGHT.

*So when the Moon, refulgent Lamp of Night,
 O'er Heav'n's clear Azure spreads her sacred Light ;
 When not a Breath disturbs the deep Serene,
 And not a Cloud o'ercasts the solemn Scene ;
 Around her Throne the vivid Planets roll,
 And Stars unnumber'd gild the glowing Pole ;
 O'er the dark Trees a yellow Verdure shed,
 And tip with Silver ev'ry Mountain's Head :
 Then shine the Vales, the Rocks in Prospect rise,
 A Flood of Glory bursts from all the Skies ;
 The conscious Swains, rejoicing in the Sight,
 Eye the blue Vault, and bless the useful Light.*

POPE'S Homer.

*Fair Venus, next fulfils her larger Round,
 With softer Beams, and milder Glory crown'd ;
 Friend to Mankind, she glitters from afar,
 Now the bright Ev'ning, now the Morning Star.*

Universe.

Venus is distant from the *Sun* fifty-nine Millions of Miles ; and, travelling at the Rate of seventy Thousand Miles ever Hour, finishes her annual Circuit in two Hundred and twenty-four Days and seventeen Hours, in which Time she has only nine Days and a Quarter. She is computed to be a Globe of seven Thousand nine Hundred and six Miles in Diameter, so that there is very little Difference between the Bulk of the *Earth* and this Planet. Her Light and Heat from the *Sun* is double that of the *Earth's*. This Planet made a Transit over the *Sun's* Disk, the 6th of June, 1761 ; when she appeared like a large

large Beauty Spot on a Lady's Face: She will make another Transit over the *Sun* the sixth of *June*, 1769.

Mercury, the nearest Planet to the *Sun*, * goes round him in eighty-seven Days twenty-three Hours of our terrestrial Time, which is the Length of his Year ; but his Vicinity to the *Sun* renders him very seldom to be seen ; and no Spots appearing on his Disk, the Time of his Rotation on his Axis, or Length of his Days and Nights, is to us unknown. His Distance from the *Sun* is thirty-two Millions of Miles, and is in Diameter two Thousand four Hundred and sixty Miles, which is about a thirtieth Part of our *Earth*. He moves one Hundred Thousand Miles in his Orbit every Hour ; (a most inconceivable Velocity indeed !) His Light and Heat is seven Times as much as ours, and the *Sun* appears seven Times as big to him as it does to us.

THEIR Orbits, in this Machine, are not Circles, but Ellipses, and have all their due Inclinations, agreeable to their different Latitudes ; that is, they lie in different Planes : So that we
may

* *First Mercury amidst full Tides of Light,
Rolls next the Sun, thro' his small Circle bright.
All that dwell there must be refin'd and pure ;
Bodies like ours such Ardour can't endure.
Our Earth would blaze beneath so fierce a Ray,
And all its marble Mountains melt away.*

Universe.

may justly say, this Machine always shews a true Representation of the Heavenly Bodies.

BUT as these Planets always move in this System correspondent with the Heavenly Bodies, their Motions become so very slow, that they are imperceptible; (for they all move in their periodical Times, as before described) therefore we open a Pair of folding Doors underneath, which discovers four other Systems (two large and two small) where their Motions are more discernable.

THE first, on the left Hand, is the SOLAR SYSTEM, which represents the Planets in their proportionable Magnitude to each other, and performing their annual and diurnal Revolutions at the same Time, and at their proportionable Distance from each other.

THE other large one, on the right Hand, is a System of *Jupiter* and his four *Moons*, where they all move round him in their different Periods of Time, as before described, which renders the Doctrine of *Satellites* very easy to be understood.---They shew the Immersion and Emerision with *Jupiter's* Body, and the Nature of Eclipses among themselves.

THE uppermost of the two smallest Systems
is

is to shew the Nature of the Eclipses of the *Sun* and *Moon*, and shews that no Eclipse * of either can happen but at a New or Full *Moon*; and why they don't happen every New and Full *Moon* is, because the *Moon's* Orbit lies oblique to the Plane of the *Earth's* Ecliptic, that is, one half of the *Moon's* Orbit is above, and the other half below the *Earth's*, crossing it in two opposite Points, called the *Moon's* Nodes; and the Nodes, or Points of Intersection with the *Earth's* Path, have a Motion through it, contrary to the Order of the Signs; otherwise, if the *Moon's* Orbit or Path lay in the same Plane with the *Earth's*, there would be an Eclipse of the *Sun* every New *Moon*, and an Eclipse of the *Moon* at every Full; because the two Bodies, the *Earth* and the *Moon*, would be in a Right Line with the *Sun*.

THE other small System is to shew the stationary and retrograde Motion of the Planets, and plainly proves the *Earth's* annual Motion; a Scheme too difficult to be easily comprehended in

* As many People are terrified at the Appearance of an Eclipse, which they imagine, seems to portend some dire Event, and frighten others who are unacquainted with the Cause; it may not be amiss here to observe, that there is nothing at all extraordinary in it: For an Eclipse of the *Sun* is nothing more than the *Moon's* passing between the *Sun* and the *Earth*, so as the Shadow of the *Moon* falls upon the *Earth* in passing by it; and an Eclipse of the *Moon* is caused by the *Earth's* being between the *Sun* and the *Moon*.

in Lines, but is rendered very obvious and intelligible in this Machine.

THERE is also another Piece of Mechanism, independent of this Machine, which is placed on the Right Hand Side.—This exhibits the Trajectory and Type of the COMET,* whose Appearance was so much looked for in 1758, but did not appear till 1759. It shews the accelerating and decreasing of its Velocity; the lengthening and shortening of its Tail; and its near Approach to the *Sun*; its Aphelion and Perihelion; and its moving thro' the Arches of equal Areas in equal Times.

At

* The Phænomenon of COMETS, or BLAZING STARS, generally spreads Terror and Amazement, and, whenever they are seen, afford such a singular Appearance as affects the Spectators with Wonder and Astonishment: Yet they are not to be deemed destructive, but rather Conservators of the Planetary System; for their Tails are supposed to be prodigious Quantities of Fume and Vapours, flying off from the Bodies of the Comets, as they become more and more heated in their Approach to the *Sun*, and are found by actual Measurement to be thirty or forty Millions of Miles, some of them seventy or eighty Millions in Length, when nearest the Sun. Some imagine they are dispersed about the Planetary System, in such a manner as to supply the Planets with Moisture; which they suppose continually decreases by Vegetation, Putrefaction, &c. And they are found to run through very great Extremes both of Heat and Cold; for Astronomers tell us, that the Comet of 1680 went so near the Sun as to become heated 2000 Times hotter than red hot Iron, and from thence it went to the Distance of Eleven Thousand Millions of Miles, about Seventeen Thousand Times colder than our frigid Zone.

*At his Command, affrighting Humankind,
Comets drag on their blazing Lengths behind;
Nor, as we think, do they at Random rove,
But in determin'd Times, through long Ellipses, move:
And tho' sometimes they near approach the Sun,
Sometimes beyond our Systems Orbit run,
Throughout thier Race they act their Maker's Will,
His Power declare, his Purposes fulfill.* Mr BAKER.

Zone.* These great Extremities have occasioned many to think they are appointed as the Place of Torment, or Hell, for the Damned.—Thus the Poet:

*Who can the Comet's wond'rous Journey tell,
Seats not unaptly deem'd the Place of Hell.
Now burning in the Sun's immediate Beams;
More frigid now than Greenland's frozen Streams.
Of all God's Works, our Reason nothing shews,
So fitly form'd for Torments and for Woes.*

THIS

* “ It may seem unaccountable to an *unlearned* Reader, that
“ Astronomers should speak such amazing Things, and speak
“ them with such an Air of *Assurance*; concerning the Distan-
“ ces and Magnitudes, the Motions and Relations of the heaven-
“ ly Bodies.—I would desire such a Person to consider the Case
“ of ECLIPSES, and with what *Exactness* they are calculated.
“ They are not only foretold, but the very Instant of their *Be-*
“ *ginning* is determined.—The precise Time of their Continu-
“ ance is ascertained; ascertained almost to the *Nicety* of a
“ Moment; and, what is still more surprising, for the Space of
“ *Hundreds* or *Thousands* of Years to come —As this is a Mat-
“ ter of Fact, absolutely indisputable, it is also a very obvious,
“ yet solid Demonstration, that the Principles of Science, on
“ which those Calculations proceed, are not mere Conjecture, or
“ precarious Supposition; but have a *real*, a *certain* Founda-
“ tion, in the Nature and Constitution of Things.”

HARVEY'S Starry Heavens.

THIS Piece of Mechanism also shews the Phænomenon of the Transit of the Planet *Venus* over the *Sun's* Disk, on the sixth of *June*, 1761, when she appeared like a little black Patch on the Face, tho' she is nearly as big as our *Earth*; from whence it is easy to judge how immensely large the *Sun* must be, when a Globe of seven Thousand nine Hundred Miles in Diameter, appeared but a Spot in it.

IT likewise shews the Beginning, Middle, and Ending, of that Eclipse of the Sun, which happen'd on the first Day of *April*, 1764: This is allowed to be the most natural Representation of an Eclipse that was ever exhibited.

*Thus I've the Motions, taught of Stars above,
Of Sun and Moon, and by what Cause they move.
And how eclipsed they lose their gaudy Light,
And spread o'er all an unexpected Night.
As if they wink'd, and then with open Eyes,
View'd all again, and clear'd the lower Skies.*

CREECH.

HAVING now briefly given a Description of the Astronomical Part of this magnificent Machine, a Part which is beheld with equal Pleasure and Instruction; I shall now proceed to mention a few of its remaining Beauties, in order to give the Reader a farther Idea of this excellent Piece of Art.

D

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A delightful Landscape is next presented to View, with a Prospect of the Ocean. On the Sea, Ships are sailing according to true Perspective, their Motions, &c. being agreeable to their various Distances. On the Land, are Coaches, Carts, and Chaises, passing along, whose Wheels turn round as if actually on the Road; and the Persons, Horses, &c. altering their Positions, as they ascend or descend a steep Hill. In the same Piece, a pleasant River presents itself near the Road, on which there appears a Gunpowder Mill at Work; and in which River are Swans swimming, fishing, and bending their Necks backward to feather themselves; with the Diversion of the Dog and Duck, &c. In a Word, it exhibits an astonishing Display both of Design and Execution; and the Beholders generally discover Beauties more than we pretend to give any Description of.

THE next is a very entertaining Representation of a Carpenter's Yard, wherein the various Branches of that Trade are most naturally represented; and the several Artificers seem as though actually at real Labour, and their various Attitudes and Motions are an accurate Resemblance of Life.

AT length all the various Parts of this Machine are at once presented to the Spectator's View

View in Motion, when upwards of One Thousand Two Hundred Wheels and Pinions move all together: And during the whole Performance, it plays several fine Pieces of Music^r on the Organ, in a very elegant Manner; and the Organ is likewise provided with a Set of Keys, so that Ladies or Gentlemen may, themselves, perform on the Organ what Pieces of Music they best like.

T H U S have I touched on some of the most striking Beauties of this astonishing Pile of Art, which, I will venture to affirm, for Elegance of Design, Structure, Variety of Scenes, Utility of Systems, Harmony, &c. &c. &c. has not its Equal. But let it not be thought that THIS or ANY Description, can give the Reader an adequate Idea of it; for there are numberless Beauties to be discovered by a discerning Eye, which Words are wanted to express: Nor had the Proprietor any other View in publishing it, than to give the Public a general Idea of THE MICROCOSM; to pay a Tribute of Praise to the Memory of the late Mr HENRY BRIDGES, the Constructor of it; and to make a few Moral Reflections on the Systems exhibited in this Machine.

IF the Contrivance and Ingenuity of the Artist who compleated the MICROCOSM (or *Little World*)

World) appear amazing to human Apprehension, how are we struck with Wonder at that Almighty Skill which formed the U N I V E R S E ! Which, according to the Prophet *Isaiah's* noble Expression, *has meted out the Heavens with a Span!* If we look upwards to the Midnight Luminaries, and survey that infinite Multitude of Stars, whose Magnitudes are astonishing, and regard them as the Sovereigns of so many Systems, each accompanied with his Planetary Equipage: If we consider what a Multiplicity of mighty Spheres must be perpetually running their Rounds in the Upper Regions! Yet that none mistake their Way; none fly off from their Orbits, into extravagant Excursions; none press in upon their Centre, with too near an Approach; but all their Rotations proceed in eternal Harmony, keeping such Time, and observing such Laws, as are most exquisitely adapted to the Perfection of the Whole:—

*And if through vast Immensity we pierce,
See Worlds on Worlds compose one Universe;
Observe how System into System runs,
What other Planets circle other Suns.*

Essay on Man.

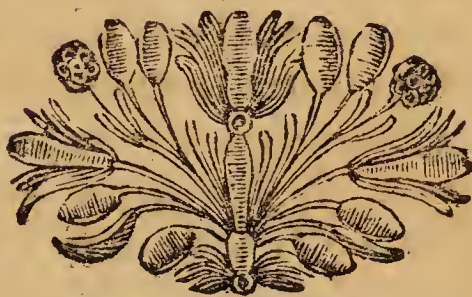
Can we forbear enquiring, Of what were those mighty Orbs formed?—Amazing to relate! they were produced without Materials They sprung from Emptiness itself. The stately Fabrick of universal Nature emerged out of Nothing.

thing. A bare *Fiat* accomplished all. **LET THEM BE**, said **GOD** What wonderful Force fixes some of those vast Globes on an immovable Basis! What irresistible Impulse bowls others through the dark Profound! And what coercive Energy confines their impetuous Courses within the nicest, strictest Bounds! Nothing but his Sovereign Will:

*All are but Parts of one stupendous Whole,
Whose Body Nature is, and God the Soul.*

Essay on Man.

For all Things were at first constituted, and all to this Day abide, according to his Ordinance: What an astonishing Instance of Infinite Might is this! Such Considerations will naturally excite us to cry out, in the Words of the Royal Psalmist, *O Lord! how manifold are thy Works! In Wisdom hast thou made them all.*





A
P A R O D Y
O N
P O P E'S PROLOGUE to C A T O.

Addressed to the Late
Mr *HENRY BRIDGES*,

Constructor of that Elaborate Piece of Mechanism,
CALLED, THE
MICROCOSM.

By the late Dr BURTON, of Yarmouth.

SO sooth the Soul by tender Strokes of Art,
T To raise the Genius and to rouse the Heart,
To make Mankind by Harmony elate,
Softens the Breast and banish direful Hate,
The ruffled Passions potent to assuage,
To conquer Fear and to enervate Rage,
Was *Music's* Power, by *Orpheus* first ordain'd;
Fierce Beasts were tam'd, and fiercer Tyrants chain'd.
Th' enchanting Sounds through their whole Fabrick crept,
And *Savage* Mortals wonder'd why they wept.

Our *Artist* shuns by vulgar Springs to move
His mimick Race below, or Orbs above.

Here

Here Pleasure flows from *Scientific* Cause,
 Whilst Ingenuity extorts Applause :
 He bids your Breast with Emulation rise,
 And tho' you're e'er so learn'd, e'er so wise,
 By Arts *Mechanic* you will here be taught
 More than *Rome* knew, or *Grecian* Sages thought.
 Those Objects to your Senses he displays,
 Which the Spectator of our Globe surveys ;
 The various Movements and the changing State,
 Of Beings active and inanimate.
 Whilst *BRIDGES* gives his *M I C R O C O S M* Laws,
 What Bosom beats not in Invention's Cause ?
 Who sees him work, but envies every Deed ?
 Who hears him lecture, hears even *Newton* read,
Britons attend, be Worth like his approv'd,
 And shew you have the Virtue to be mov'd.
 With honest Scorn our wond'rous *Artist* view'd
 Meer Machinations on the World obtrude ;
French and *Italian* Puppets pleas'd too long,
 And *English* Sense was barter'd for a Song.
 Dare to invent yourselves, to *Fame* aspire,
 Be justly warm'd with your own native Fire.
BRIDGES ! those Sounds must ravish every Ear,
 Which *Handel's* Self did not disdain to hear.

F I N I S.



